

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 29 MAR 2005



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Applicant's or agent's file reference HSCF-KOLON	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. <b>PCT/KR2003/002522</b>	International filing date (day/month/year) <b>21 NOVEMBER 2003 (21.11.2003)</b>	Priority date (day/month/year) 26 NOVEMBER 2002 (26.11.2002)
International Patent Classification (IPC) or national classification and IPC  <b>IPC7 D01D 5/30</b>		
Applicant  <b>KOLON INDUSTRIES, INC et al</b>		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets, including this cover sheet.
- ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of \_\_\_\_\_ sheets.

## 3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand  <b>17 MAY 2004 (17.05.2004)</b>	Date of completion of this report  07 MARCH 2005 (07.03.2005)
Name and mailing address of the IPEA/KR  Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer  OH, SANG KYUN  Telephone No. 82-42-481-8165 

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/KR2003/002522

## I. Basis of the report

### 1. With regard to the elements of the international application:\*

- ☒ the international application as originally filed
- ☐ the description:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the claims:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, as amended (together with any statement) under Article 19  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the drawings:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

### 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language English which is

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☒ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

### 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

### 4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets \_\_\_\_\_

### 5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed." and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.

# INTERNATIONAL PRELIMINARY EXAMINATION

International application No.

PCT/KR2003/002522

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims 1-5	YES
	Claims	NO
Inventive step (IS)	Claims 1-5	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-5	YES
	Claims	NO

### 2. Citations and explanations (Rule 70.7)

Reference is made to the following documents identified in the International Search Report(ISR):

D1 : JP 14-30527 A (31 January 2002)

D2 : JP 14-220742 A (09 August 2002)

The claimed invention relates to a high shrinkage side-by-side type composite filament, wherein two kinds of thermoplastic polymers are arranged side by side type and a boiling water shrinkage measured by the method of clause 5.10 of JIS L 1090 is 20 to 75% of a boiling water shrinkage measured by the method of clause 7.15 of JIS L 1013.

D1 discloses a side by side type polyester based conjugated fiber obtained by conjugating polyesters having different viscosities in a conjugating ratio of 65:35 - 35:65, comprising component A including PTT as a constituent and component B including PBT as a main constituent, and the intrinsic viscosities of the component A and B satisfies the formula (Y) and the fiber has the following characters: elongation rate of crimp  $\leq 20\%$ , elongation rate of stretching  $\geq 10$ , stretch modulus of elongation  $\geq 90\%$  and Uster irregularity  $\leq 2.0\%$ . Formula (Y):  $1.5 \leq I_a/I_b \leq 2.5$  ( $I_a$  is the intrinsic viscosity of the component A,  $I_b$  is the intrinsic viscosity of the component B).

D2 discloses a polyester conjugated yarn for the highly stretchable woven or knitted fabric characterized in that at least a high-viscosity component is PTT, the ratio CD/EF of the lengths of a segment CD and a segment EF is 1.2-4.0 when two intersecting points of a straight line X passing through the center of a segment AB connecting two contact points A and B of a contacting surface of two components of the filament cross section and the filament outer periphery and intersecting the segment AB at right angles and the outer periphery of the conjugated filament are C and D; two intersecting points of a straight line Y passing through the center of the segment CD and intersecting the segment CD at right angles and the filament outer periphery are E and F; and the extension percentage under  $1.8 \times 10^{-3}$  cN/dtex load is  $\geq 40\%$  in the side-by-side type conjugated yarn.

The feature of the present invention, such as a high shrinkage side-by-side type composite filament, is not disclosed in D1 and D2. Therefore, the subject matter of claims 1 to 5 is novel pursuant to PCT Article 33(2).

The subject matter of claims 1 to 5 is considered to involve an inventive step pursuant to PCT Article 33(3), since it refers to an improved product, such as a side-by-side type composite filament having a high elastic property even in a filament state, which is not known or even suggested in the prior art, particularly in D1 and D2.

Claims 1 to 5 also meet the criteria set out in PCT Article 33(4), because all the claims are considered to be industrially applicable.

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